

INPUT

MARKET FORECAST

U.S. Processing Services
Market

1993-1998

U.S. Market Analysis Program

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U.S. PROCESSING SERVICES MARKET

1993-1998

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Abstract

This INPUT report, U.S. Processing Services Market, 1993-1998, provides forecasts and analysis for the transaction processing, utility processing and "other" processing services submarkets. The five-year forecasts cover 15 industry-specific and seven cross-industry markets. Leading vendors are identified and revenues indicated.

The report discusses areas of opportunity in the processing services market, together with the issues and trends presently influencing market growth. It also provides recommendations for vendors regarding strategies that recognize and take advantage of the key forces driving the market.

The report contains 46 pages and 19 exhibits.

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Information Services Market Analysis Program

U.S. Processing Services Market, 1993-1998

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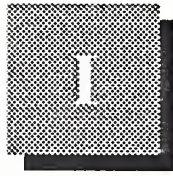
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Introduction

A

Purpose, Organization and Methodology

This section identifies the purpose and scope of this report, notes how the document is organized, and explains INPUT's research methodology and the techniques used in the preparation of forecast data.

1. Purpose

The purpose of this forecast report is to identify key changes in the market for processing services, and to provide the 1993 INPUT forecast for this delivery mode.

Delivery Mode Definition - The processing services delivery mode, as defined by INPUT, is composed of three submodes—transaction, utility and other processing services:

- *Transaction Processing* - With transaction processing, the client uses vendor-provided information systems—including hardware, software, and/or data networks—at the vendor site or customer site to process specific applications and update client data bases. The application software is typically provided by the vendor.
- *Utility Processing* - For utility processing, the vendor provides basic software tools (language compilers, assemblers, DBMSs, graphics packages, mathematical models, scientific library routines, etc.) that enable clients to develop and/or operate their own programs or to process data on the vendor's system.
- *Other Processing Services* - Here, the vendor provides a service—usually at the vendor site—such as scanning and other data entry services, laser printing, computer output microfilm (COM), CD preparation and other data output services, backup, and disaster recovery.

Processing services vendors market transaction, utility and other processing services alone and in combinations. There are also vendors that only market selected functions, such as microfilm or disaster recovery services, or just one of the primary services such as transaction processing.

Most of the processing services delivery mode is considered to be purchased by industry sectors—that is, it is industry-specific. The forecast for processing services expenditures within the 15 industry sectors plus expenditures for cross-industry sectors adds to the total forecast for the delivery mode as a whole.

Processing services sold in conjunction with other services, such as network services, are included in the processing services sector.

2. Organization

In addition to this introductory chapter, the report contains analyses of the processing services market and competitive environment, as described below:

Chapter II, “Information Services Environment,” discusses user needs influencing the use of processing services, relevant technologies and a variety of issues and trends driving or inhibiting the demand for processing services.

Chapter III, “Market Forecast,” presents an analysis of the expenditures for processing services, by submode, for the 15 vertical markets reviewed by INPUT.

Chapter IV, “Competitive Analysis,” discusses key industry issues and considers the competitive positioning of major vendors. It also identifies significant vendors by size and application area.

Chapter V, “Conclusions and Recommendations,” offers suggestions and recommendations for participants in the processing services market.

Appendix A, which contains the Forecast Data Base, presents a detailed forecast, by submode, for the 15 vertical markets. A reconciliation to the previous forecast is also provided, together with a list of related reports of possible interest to the reader.

3. Methodology

Much of the data on which this report is based was gathered during late 1992 and 1993 as part of INPUT's ongoing market analysis program. Trends, market sizes and growth rates are based upon INPUT research and in-depth interviews with users of processing services and vendors of these services. INPUT maintains ongoing relationships with, and a data base of, all users and vendors interviewed. Interviewees for the research portion of this report were selected from this data base of contacts.

INPUT Library - In addition, extensive use was made of INPUT's corporate library located in Mountain View, California. The resources in this library include on-line periodical data bases, subscriptions to a broad range of computer and general business periodicals, continually updated files on more than 3,000 information services vendors, and the most up-to-date U.S. Department of Commerce publications on industry statistics.

Financial Data - It must be noted that vendors may be unwilling to provide detailed revenue information by delivery mode or industry. Also, vendors often use different categories of industries and industry segments or view their services as falling into different delivery modes from those used by INPUT. Thus, INPUT must estimate revenues for these categories on a best-effort basis. For this reason, the delivery mode and individual segment forecasts should be viewed as indicators of general patterns and trends rather than specific, detailed estimates for individual years.

Rounding - When displaying market forecast values in bar and column charts, INPUT rounds these amounts for ease of visual reference. Actual values are shown in Appendix A tables and may also be used in chapter text.

B

General Business Trends

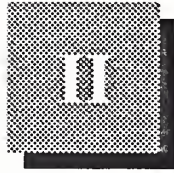
As noted in the Economic Assumptions section of the Department of Commerce's 1993 U.S. Industrial Outlook, U.S. economic growth in 1992 was somewhat less than what was forecast in the prior year. The very slow recovery seen at the end of 1991 continued into 1992, with unemployment remaining at undesirably high levels—a condition fueled primarily by corporate restructuring and defense industry cutbacks. Even though retail sales were at an encouraging high during the 1992 Christmas season, business expenditures continued to remain low. This was due to both an ongoing desire to reduce costs and improve profits, and uncertainty as to the precise nature of any economic (primarily tax) reforms that would be proposed by the new Clinton administration.

In 1992, the major burden for implementing economic policy fell on the Federal Reserve, a strategy that caused the Fed to steadily reduce the federal funds rate from 8% in June of 1990 to 3% in September of 1992, forcing a general reduction in all interest rates to the lowest levels in years.

The outlook for 1993 remains cautiously optimistic, with many of the uncertainties tied to the new administration's attempts to reduce the budget deficit while, at the same time, stimulating a still sluggish economy. At this time, messages remain mixed, with proposed corporate taxes favoring small businesses and those who make capital investments and penalizing larger corporations, especially services firms, through a 2% increase in the top corporate tax rate, from 34% in 1992 to 36% in 1993. Personal income will be reduced by a proposed increase in income taxes averaging 3% for middle income families and 5% for those in the highest income categories. All taxpayers, business and individual, will also experience higher energy costs due to proposed new energy taxes. Many critics of the administration's proposals fear that the new taxes risk slowing the economy just when it has started to show some healthy growth—and there is a general wait-and-see attitude to determine how successfully the proposals survive the conflicting agendas of the congressional process.

INPUT uses the Blue Chip Consensus (economic) report and various other sources (Federal Reserve, IMF) to identify anticipated economic growth trends and incorporate GDP assumptions in industry and delivery mode financial forecasts. Economic growth in 1992 had a very slight movement upwards, but the 3% growth in GDP anticipated for that year is now forecast for 1993. This modest 3% growth resulted from the pressures placed upon the defense industry, tax uncertainties, a weak commercial real estate market, high federal debt, slow growth in the labor force, cautious financial institution lending policies and the growing economic interdependence of the industrialized nations. Balancing these growth inhibitors are the healthy gains in corporate profits noted in 1992 and a pattern of increased consumer spending.

In summary, U.S. economic fundamentals strengthened in 1992, establishing a foundation for the modest but steady 3% growth predicted for 1993.



Information Systems Environment

A

Needs Influencing Use of Processing Services

When the mainframe was the primary computer platform for handling business applications, processing services rose to prominence. Many small and mid-sized companies did not have the capital to invest in mainframe systems nor the staffing to support them. Processing services allowed companies to automate business functions such as payroll and billing on a pay-as-you-go basis. This was an attractive alternative that many companies embraced in the 1960s, supporting sizable business growth for large processing services vendors such as EDS and ADP.

Information technology has changed considerably in the past few decades, with desktop systems becoming more powerful and less costly. Today, most companies (no matter what their size) have invested in some computer technology to support their business. In fact, the cost of hardware and software has reached a point where PCs are becoming a fixture in the average home along with the VCR and color TV.

What have these changes done to the demand for processing services? As might be expected, the growth rate for many traditional services has leveled off as companies have brought applications in-house as it became more affordable to do so. However, the belt-tightening in American companies in recent years has led to efforts to reduce data processing costs. Many companies have decided to let information systems be handled by the "experts" who make that their business, while they focus all their internal efforts in their primary core business areas such as banking or insurance. This has led to a counter trend of buying services rather than processing all applications internally.

While growth may be leveling off in some areas, there are certain applications where needs are growing and use of a processing service vendor makes economic sense. Processing services will continue to offer advantages and economies of scale for certain types of applications. In addition, relatively new offerings in the processing services arena, such as disaster recovery services, are recording high rates of growth.

This chapter discusses the needs and technology affecting the market for processing services, along with related business issues and trends.

1. Applications Driving Demand

Demand for processing services will be driven both by continued volumes in traditional applications and development of new applications to balance those that migrate in-house. The following are key applications that are uniquely suited for continued use of processing services.

a. Billing Applications

For those entities that generate large numbers of bills each month such as utilities, telecommunications and cable TV providers and retailers, processing services offer significant advantages. While billing is one of the most important functions in an organization, the applications supporting it do not fall into the mission critical category. Due to the large volumes generated even by small companies, there are advantages to handing over the process to a third party that specializes in the billing process.

The telecommunications and cable TV industries in particular have needs that lend themselves to the use of processing services for billing. Telecommunications is an industry that has enjoyed healthy growth rates in recent years due to ongoing technological development. Since the divestiture of AT&T, there has been much jockeying for position between telephone companies and cable TV companies for the expected lucrative market for new information/entertainment services for consumers. Today, it appears that both will have a role, with companies in one area acquiring or joining forces with those in the other to better position them to offer services. Cable television technology is providing opportunities for new and different services. Pay-per-view options allow viewers to choose specific programs for which they are willing to pay extra fees. Interactive services offer opportunities to conduct transactions through cable television. This flexibility for the viewer translates into additional complexities for the billing process. At the same time, the use of cellular phones is increasing and providers of such services are offering new options. Once again, the billing process needs to be sophisticated and flexible.

The cable television industry has historically been a heavy user of outside services. Many of the operators have been small businesses that saw the economic advantages of using a service bureau. As their billing needs become more complex, these businesses are expected to increase their use of processing services in this area. The cellular industry also has taken advantage of the flexibility that outside services can provide. As this industry continues to grow, demand for billing services is expected to grow accordingly.

Utility and other retail billing continues to be an opportunity for processing services vendors. Given the complexities and time requirements of the billing process, the economies of scale associated with using an outside vendor are often more attractive than moving such an operation in-house.

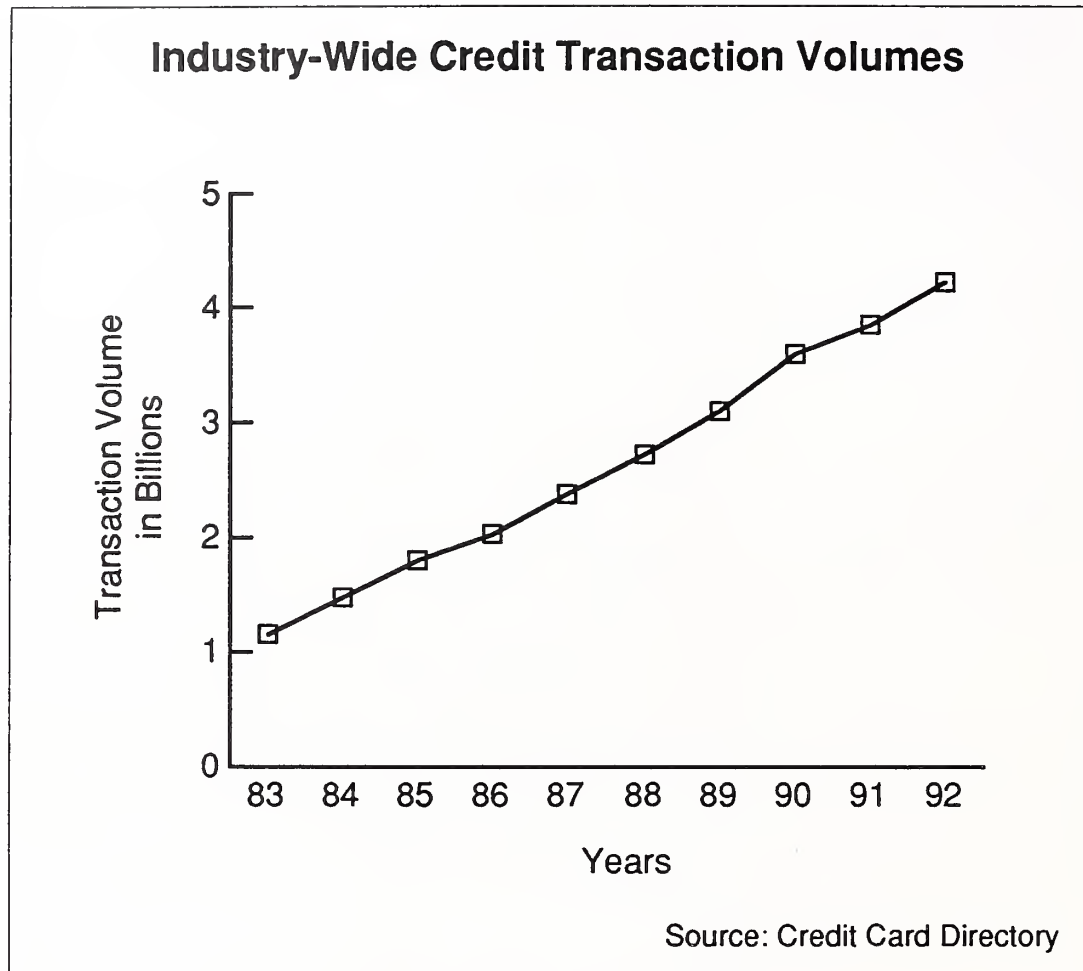
b. POS Applications

Anyone who has made a purchase at a grocery, discount, or department store recently has probably seen firsthand the changes in technology used in these environments. Fewer imprints are made of credit cards, in favor of electronic "swipes" with near-instantaneous transaction approval. Debit card processing has sprouted up in more types of stores, allowing buyers to have funds taken from bank accounts directly without the need for writing a check. Processing of debit purchases occurs in a matter of seconds.

Check processing has also become more automated as electronic approval is available on a timely basis. In short, retailers are making it easier and faster to conduct electronic transactions. Consumers are reacting to this convenience with increased use of credit and debit cards in making purchases.

While growth in the *number of credit cards* continues to be modest, significant growth is being noted in the *number of transactions* handled by credit card. As shown in Exhibit II-1, credit card usage increased by 10% in 1992 as compared with the previous year. Some card companies are using various incentives such as GM's rebate program and the offering of airline mileage rewards to encourage use. As transactions increase, revenue for processing services vendors increases accordingly.

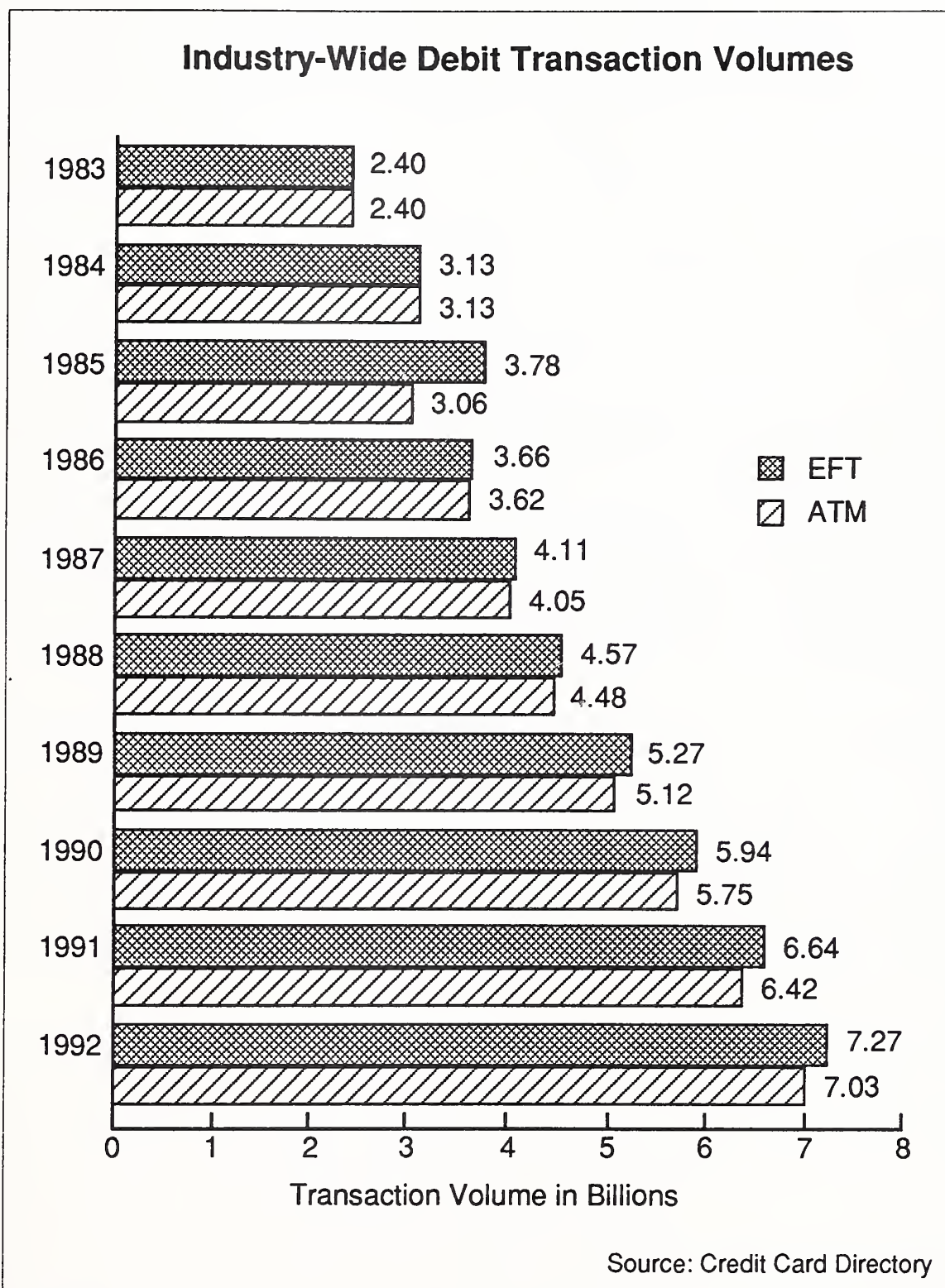
EXHIBIT II-1



Large processing services vendors such as EDS have business units focusing specifically on these applications. Their size and system sophistication offer advantages over other alternatives to handle these transactions. However, these vendors will need to continue to stay ahead of the game in the areas of technical advancement and reliability to ensure that large customers don't take on these requirements internally. For example, a consortium of banks in the midwest is in the process of forming Electronic Payment Systems, which would be a processing service to handle transactions in member banks.

Debit transactions are becoming more commonplace as the number of places where purchases can be made with these cards increases. Grocery and discount stores, as well as many gas stations, offer customers the option of using their debit cards. At EDS alone, debit transactions have grown from 1.1 million to 1.4 million per day in the past year. As shown in Exhibit II-2, industry-wide debit transactions grew from 13.06 billion in 1991 to 14.3 in 1992, an increase of 9.5%. Visa and MasterCard's nationwide networks, Interlink and Maestro, will support continued convenience, driving increased transaction volumes.

EXHIBIT II-2



c. Claims Processing

While the specifics of the Clinton administration's health care reform are yet to be finalized, the trend toward electronic processing of insurance claims is expected to continue.

INPUT estimates that of the roughly five billion publicly and privately paid health care claims filed in 1992, about 30% were filed electronically. This proportion is projected to grow to over 50% of the more than six billion claims expected in 1997. Certain classes of the 1992 claims, however, far exceed this average, as in the case of electronic pharmacy claims, which approach 80% rates. Electronic transmission of inpatient hospital claims reportedly are increasingly common for Blue Cross/Blue Shield hospital payments—at about 60%—but are limited for private payers to hospitals at 2%.

In 1992, the Health Care Financing Administration standardized the Medicare form for electronic submission. The department of Health and Human Services has proposed a U.S. health claims processing network to automate health and medical insurance claims processing. Estimates have been made of savings of more than \$20 billion annually by the year 2000.

As the handling of these claims becomes more automated, the effect on processing services can be significant. Transactions will be involved in processing such claims involving multiple entities from health care providers to insurers to government agencies.

d. New Applications

Perhaps most significant for processing services is the wealth of new applications being evaluated, piloted and discussed that have potential for using processing services.

For example, in the credit card arena, plans have been in the works to extend credit card usage to establishments where card usage has not previously been possible. These include fast food restaurants, parking garages and taxicabs. In some cases, the development of cellular technology will make this possible.

Home banking and shopping, services that have been discussed and planned for years, are positioned to become more of a reality in the near future, due to a number of factors. The local telephone companies, which were prohibited for years from offering information-related services, have been given the go-ahead to expand into such areas. At the same time, cable television has the technology to offer such services and alliances and mergers are being formed with telephone operations such as the recently announced Bell/Atlantic/TCI merger. Lastly, the penetration of the personal computer into the home, sets the stage for such services. These services will generate transactions that will require processing services.

Expanded use of automatic teller machines (ATMs) represents another potential boost to transactions processing. As these devices become located in retail establishments and other convenient places for consumers, some plans call for the addition of such capabilities as selling tickets to sporting events, theaters and for airline travel.

e. Disaster Recovery

The greatest opportunity for growth is in the disaster recovery area. The past few years have seen more than their share of disasters. In fact, 1992 goes on the books as the worst year for catastrophic events, given the effects of hurricanes Andrew and Iniki, the Los Angeles riots along with hailstorms, tornadoes and floods. The trend has continued into 1993 with the flooding of the Mississippi River, the fires in southern California, devastating storms on the east coast, and the World Trade Center bombing. These events have increased awareness of the need for disaster recovery services, as many companies have learned firsthand the value of services such as hot sites and the devastating effect when recovery services have not been planned. In fact, IBM has reported that its studies show 68% of businesses that experience computer shutdown never reopen. A survey by Stratus Computer of 450 Information Technology managers found they had an average revenue loss of over \$78,000 per hour due to unplanned downtime.

Yet at the same time, more than half of respondents to a recent industry survey report say they are not using disaster planning. The move to distributed systems is affecting need even further, as many recovery systems have focused on the mainframe. Many recovery plans have not yet fully addressed the needs of PCs and LANs, even though much critical data resides on such devices. Given that disaster awareness is high, it is likely that more companies will be implementing plans, driving increased usage of disaster recovery services.

Interestingly enough, however, while the high-profile recent disasters have done much to increase awareness, the more likely risk a data center faces is something less dramatic. Some statistics show that only 20% of computer shutdowns are a result of large-scale disasters. More prevalent causes are failure of hardware/software, network failure, or employee sabotage.

Deloitte Touche published research findings recently indicating that disaster recovery is one of the most likely applications to be handled by a third party.

f. Traditional Transaction Processing

Many traditional needs for transaction processing continue, although with more modest growth. For example, payroll processing is a major application for processing services. Layoffs and overall cutbacks affecting employment in general also affect the demand for payroll processing. However, this application will likely continue to be a major one for processing services vendors. Companies in general are focusing their internal IS efforts on mission critical applications that drive the business. Payroll, while a necessary business application that needs to continue to run smoothly and meet requirements, is less focused on the business itself. Therefore companies will continue to use outside services for payroll, as long as it is cost effective, and focus internal efforts in other areas.

B

Technology

Technological developments are a primary force behind the need, or lack thereof, for processing services. The capabilities of PCs and desktop workstations, along with the trend toward distributed processing, have taken a bite out of one of the key reasons for using processing services—cost. Computer technology today is becoming increasingly more affordable, leading some to question the need for some uses of processing services. Yet, on the other hand, it is this same technology development that is resulting in demand for other processing services such as disaster recovery.

Specific technologies that are affecting the processing services market include the following:

Powerful desktop systems - These systems make technology more affordable and available. Users see advantages in having more control over applications. Therefore this technology has resulted in in-house management of systems that previously used a third party.

Trend toward distributed processing - In the past, data and key applications resided on a mainframe, and the main issue was whether the companies contracted with an outside vendor for the use of its mainframe or acquired one on their own, hoping this investment would meet their needs in the years to come. Today, systems are much more complex. More companies are moving toward client/server technology and distributed processing, where data and applications reside in various locations throughout the organization. In the transaction processing arena, this trend allows users to make use of smaller, less costly systems for some applications. In the disaster recovery area, the same trend creates increased

complexity as companies strive to have adequate recovery plans in place. Distributed processing and client/server architectures make the disaster recovery vendor's job more complex, but they also offer more opportunity to provide additional services.

Mobile Data Center - One way that disaster recovery vendors are dealing with supporting distributed systems is through use of mobile data centers. These transportable centers can be quickly moved to a work group site that has suffered a system loss and can support most functions for such groups.

Cellular Technology - In the credit card processing area, cellular technology is allowing transactions to be made from locations that previously went unserved, including fast food restaurants and taxicabs. The expansion of the cellular phone business, especially with new digital capabilities, affects processing services in the demand for billing services.

ATM Machines - The convenience of ATM machines has led to ongoing increased demand and usage. National networks allow cardholders to conduct transactions while traveling. As banks and retailers offer additional services through the ATM in the future, opportunities for increased transactions for processing services vendors will open up.

Smart Cards - While still comparatively in its infancy, much attention is being focused today on the capabilities of smart cards. These devices allow transactions to be conducted through use of a credit-card sized device that stores updatable electronic data on an embedded computer chip. Transportation authorities in New York City are looking at using this technology for collecting tolls.

EDI - EDI has proved to be a cost-effective alternative to paper transactions. As standards for this technology are finalized, its usage is expected to continue to rise. Companies are finding that it is less costly and more timely to conduct business electronically than with paper-based systems. The growth in EDI for purchasing, claims processing and various other applications will increase the number of transactions conducted which previously were handled manually.

C

Key Issues and Trends

There are a number of general business or technological issues and trends occurring in the U.S. today that are affecting the need for processing services. These factors are likely to affect demand positively in some ways and negatively in other ways. These include:

Economy - Clearly the state of the economy affects the demand for any kind of product and service. Yet processing services, being usage-based by nature, are particularly vulnerable. Such revenues are based on day-to-day usage, and as usage goes down due to economic factors, revenue follows. For example, unemployment has a direct effect on volumes for payroll services, as fees are typically on a per employee basis. Credit/debit card processing is based on purchasing volumes. As buyers tighten their belts and buy less, the volume of transactions goes down. On the other hand, use of credit can also go up as buyers defer payment to a later time.

The economy has led many companies to rethink their strategies and reorganize and streamline their businesses. This has led to cutbacks across the board—particularly in the information systems area. Such reasoning has made it less feasible for companies to consider moving applications in-house and, in fact, has led some companies to move in-house systems to a third-party provider.

In the state and local government sector, reduction in federal funds have forced users to look to the outside for help. State and local government allocations for IS funding are frequently affected by legislative decisions to deliver new or different services; to raise or lower taxes on sales, incomes, or property; or otherwise change the way business is conducted. These all impact the development and operation of information systems.

Health Care Reform - The way that health care is provided in this country is about to undergo dramatic changes. It is expected that the managed care approach will prevail, with strong emphasis on containing or reducing costs. While more people will be covered, there may be services that are typically available with most health care plans today that will not be covered in the future. Processing services to the health care and insurance industries will be affected by all these changes. More information will need to be tracked and reported. Analysis will be required to control costs and claims processing will become more complex.

These changes all provide opportunities to the processing services vendor. As health care providers and insurers struggle to contain costs, investment in additional systems to support processes that have become more complex may be difficult. The availability of services through a third party that understands those needs and can address them cost effectively could be attractive to these businesses.

Specialized needs - The proliferation of PCs and LANs in businesses has led to the automation of an increasing number of functions. Many of these are unique to the industries involved. For example, in the health care industry, patient records are now being computerized and integrated with administrative and financial systems. With the budget cutbacks that many companies are experiencing and the lack of skilled personnel to support new systems development, the availability of third-party solutions presents an attractive option.

Many vendors have recognized needs in specific niches and have developed solutions specifically for these industry requirements. Flexibility is a key advantage, with solutions being available either through the vendor as the processing service or as software if the buyer chooses an in-house option. Particularly in the health care environment, there are companies that have chosen to provide specific services to address the needs of this market. In the billing arena, vendors have chosen to specialize on cable TV billing only, targeting that specific niche. Buyers are confident in using a third party that understands the specifics of their business and recognize the economies of scale and capabilities that such a third party can offer.

Outsourcing Trend - There is a definite trend toward outsourcing some or all of information processing in many industries today. This trend is changing the mindset of buyers. As they see their budgets shrink and other companies move to outsourcing, the desire to maintain complete in-house control over systems has lessened. While outsourcing involves a different type of contractual arrangement than use of processing services, the increased reliance on third parties is a positive trend. Many of the traditional transaction processing companies are growing their businesses through the availability of outsourcing.

1. Driving Forces

As summarized in Exhibit II-3, the following are the forces driving the use of processing services:

EXHIBIT II-3

Processing Services Driving Forces

- Health insurance reform
- Disaster recovery service needs
- Credit/debit card usage
- Emphasis on cost reduction
- Networking requirements
- Economies of scale

Health Insurance Reform - The anticipated changes in the U.S. health care system lend themselves to increased automation. There will be more people served with closer tracking of costs and analysis of services and the appropriateness of them. The approval and claims process will become more complex. On-line claims processing will be a significant part of this trend. Overall transactions between various parties will increase, providing opportunities for transaction processing providers.

Need for Disaster Recovery Services - The number of high-profile disasters in recent years is increasing awareness of the need for disaster recovery plans and services. Yet various studies have shown that the use of these systems has not yet caught up with the obvious need for them. The result is that there are many companies that do not yet use these services, even though they are becoming increasingly aware of their importance. The trend toward the use of client/server technology creates an additional demand, as companies implement critical functions under this architecture and need to have disaster recovery plans for this technology as well as for the mainframe. These forces translate into opportunities for increased business for disaster recovery vendors.

Credit/Debit Card Usage - As credit/debit card providers offer incentives for increased use and include new services, usage of these cards is expected to drive increased demand for transaction processing services.

Cost Reduction: Companies are looking for ways to reduce costs, in general, and for information systems, in particular. Many companies are no longer interested in handling their own applications as they see costs increase and availability of staff decrease. If use of a third party is cost-effective, demand is likely to increase for such services.

Networking Among Parties - In looking at the applications where growth is expected, networking among applications users is common. For example, credit and debit transactions involve communication among various retailers, banks and credit card bureaus. Claims processing involves linkages between a variety of health care providers (hospitals, physicians, labs) and public and private insurers. In these scenarios, the networking capabilities of processing services vendors offer significant advantages over internally developed solutions.

Economies of Scale - Because processing services vendors handle many transactions for many customers, they are able to invest in sophisticated hardware, software and networking to support these needs. While computer hardware has certainly come down in price, the networking and software required to support minimal transaction time may be less affordable to individual clients. Processing services vendors can offer a significant advantage if they provide such sophisticated capability at competitive pricing. For example, third-party billing and payroll processing companies are able to invest in hardware and software that would be less affordable to small, individual companies.

2. Inhibiting Forces

As summarized in Exhibit II-4, the following are the forces inhibiting the growth of processing services:

EXHIBIT II-4

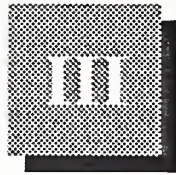
Processing Services Inhibiting Forces

- Lower cost in-house solutions
- Market maturity
- Slow economy

Reduced Costs of In-House Solutions - Small to mid-sized companies that previously relied on processing services as their only option (due to the high cost of mainframes), now have more alternatives available to them. Costs have continually come down for PC-based systems while the power of these systems has increased. Off-the-shelf software has been developed for many new or existing applications, making it cost-effective (in many cases) to handle such applications internally. Vendors need to emphasize the economies of scale associated with continued use of processing services and remain cost-competitive with in-house alternatives.

Mature market - In general, the market for processing services is a mature one, particularly in the transaction and utility processing segments. Many of the applications best suited to these services have been implemented and users have been making use of them for some time. For example, for payroll services the market is somewhat saturated, with limited opportunity for significant growth—a growth not likely to occur while unemployment remains at record levels. New growth opportunities exist primarily in the disaster recovery segment, with some opportunity for increased usage in specific segments such as debit card and claims processing.

Economy - The extended recession has made buyers wary of investing in new services and in many cases has resulted in reductions in the number of transactions handled.



Market Forecast

A

Market Overview and Structure

Despite the maturity of the processing services market and the decreased cost of in-house solutions, the processing services delivery mode as a whole is holding its own in the marketplace, with an 8% CAGR projected for the period 1993-1997. In fact, in comparison with projections in last year's report, processing services is doing better than expected. As indicated in Exhibit III-1, actual expenditures in 1992 for processing services were \$19.4 billion as compared with the anticipated \$19.1 billion. INPUT has projected expenditures in 1993 at \$20.9 billion, as compared with the \$20.6 billion projected last year. These improvements were driven primarily by higher than anticipated expenditures in the banking/finance and state and local government segments.

EXHIBIT III-1

Processing Services Market Overview (\$ Billions)

1992 Report		1993 Report	
1992 Forecast - \$19.1	versus	1992 Actual - \$19.4	
1993 Forecast - \$20.6	versus	1993 Forecast - \$20.9	
1992-1993 Forecast Growth Rate 8% CAGR	versus	1993-1998 Forecat Growth Rate 8% CAGR	

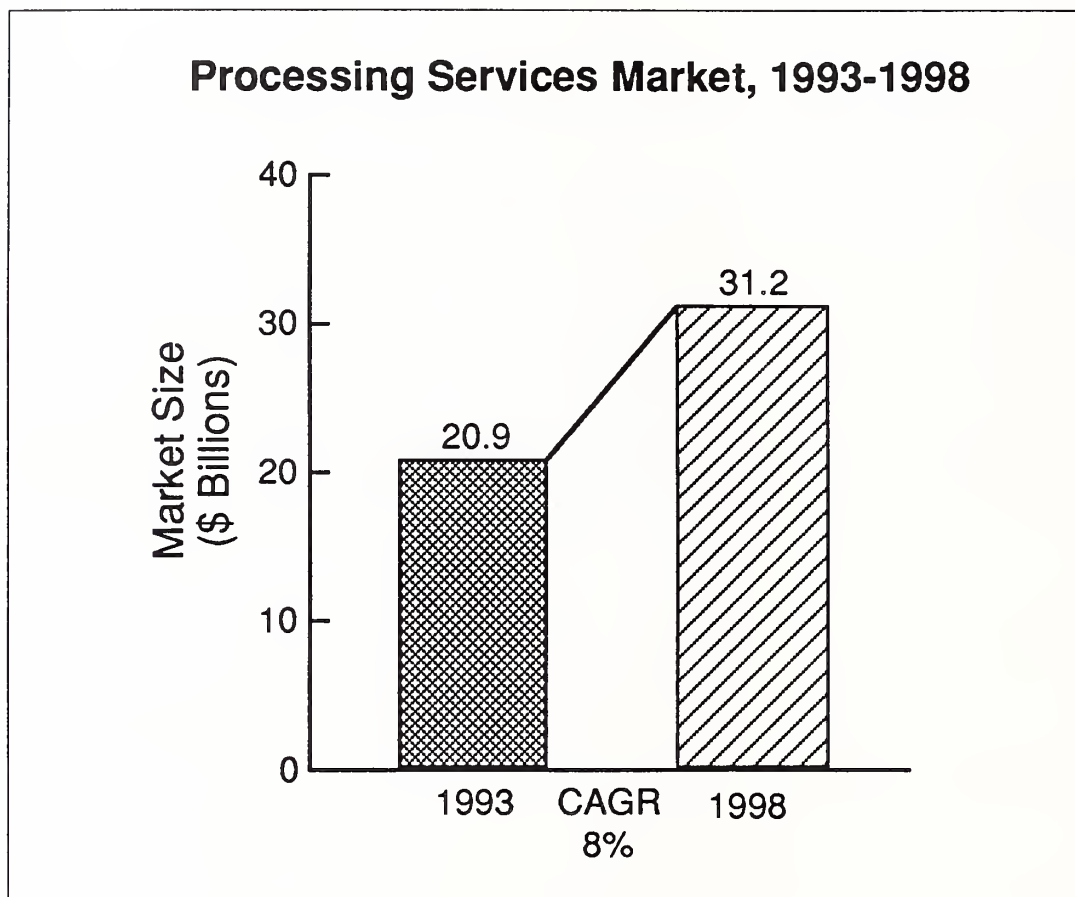
As noted earlier, financial projections in this report address transaction, utility, and "other" processing services expenditures. Outsourcing expenditures are provided in a separate report, *Information Systems Outsourcing Market Opportunities, 1993-1998*.

B

Forecast by Submode

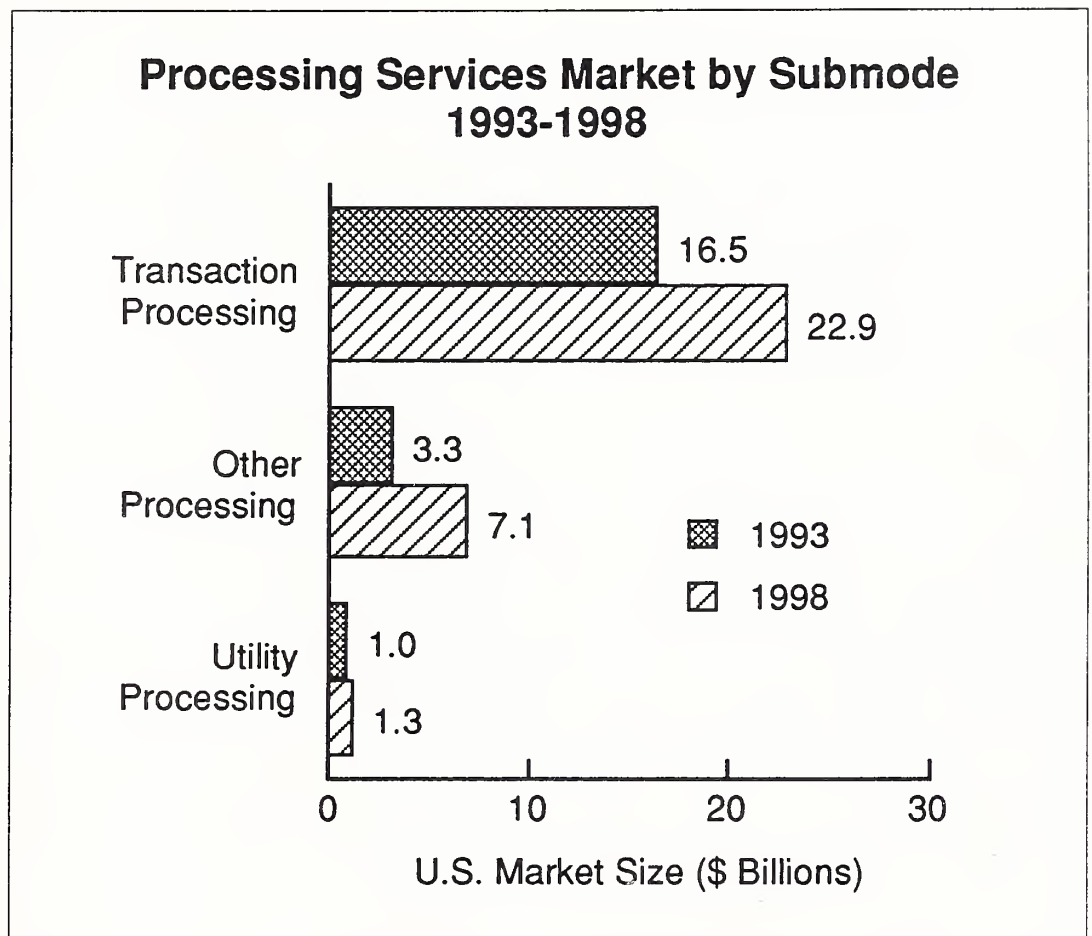
INPUT estimates that the processing services market will grow from a 1992 level of \$19.4 billion in expenditures, at an 8% growth rate, to \$20.9 billion in 1993, and projects that it will grow at a compound annual growth rate of 8% to \$31.2 billion in 1998, as shown in Exhibit III-2.

EXHIBIT III-2



All processing services delivery submodes will experience market growth during the forecast period, as shown in Exhibit III-3. “Other” processing services, driven by increasing needs for disaster recovery services, will grow at the highest rate, with a CAGR of 16%—more than doubling expenditures for this submode from \$3.3 billion in 1993 to \$7.1 billion in 1998.

EXHIBIT III-3



Utility processing is expected to have a modest rate of growth, due to the negative effects of the greater availability of in-house systems. It will grow at a compound annual growth rate of 4%, or one quarter the rate of growth for “other” processing services. Expenditures in this category will increase from \$1 billion in 1993 to \$1.3 billion in 1998.

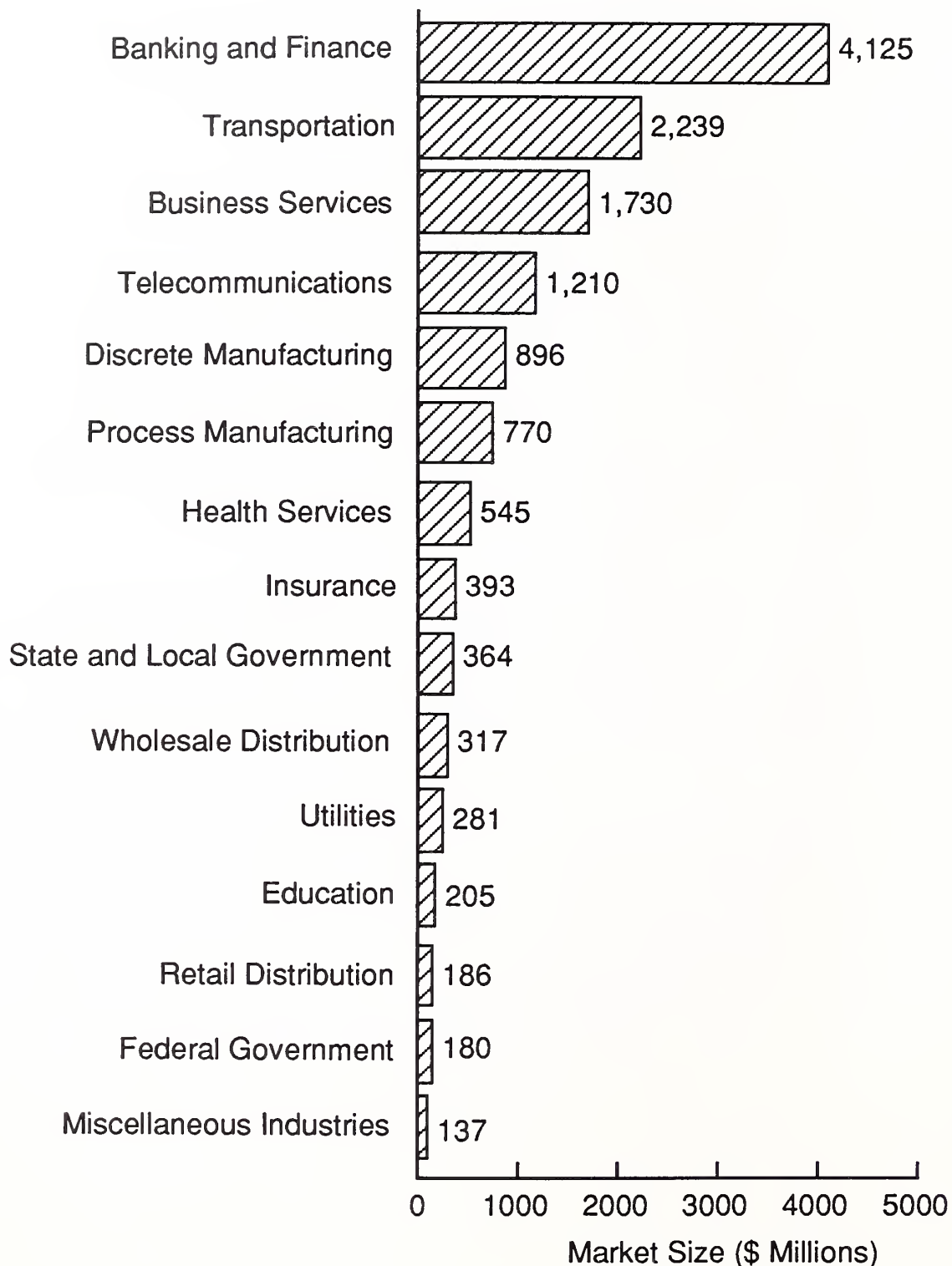
The major submode of processing services, transaction processing, will grow at a moderate compound annual growth rate of 8%, increasing from \$16.5 billion in 1993 to \$22.9 billion in 1998.

1. Transaction Processing Services Market

The transaction processing market is divided into industry-specific and cross-industry sectors. The distribution of the \$13.6 billion in user expenditures forecast for industry-specific transaction processing in 1993 is shown in Exhibit III-4. Expenditures are spread across 15 industry sectors and are greatest in the banking and finance (\$4.1 billion) and transportation (\$2.2 billion) sectors.

EXHIBIT III-4

1993 Transaction Processing Expenditures by Industry Sector



Banking and finance will continue to be the largest industry sector through 1998, increasing from 25% of all transaction processing expenditures in 1993 to 28% of expenditures in 1998. Its rate of growth is steady but moderate at 9%.

Transportation, while continuing to represent the second largest industry sector in terms of expenditures through 1998, is expected to increase spending at a CAGR of 6% through 1998. Expenditures in this industry are dominated by the large computer reservation systems such as SABRE and Apollo. The continuing financial problems of the airline industry are tempering growth in this market.

As noted in Exhibit III-5, during the period from 1993 to 1998 expenditures for the telecommunications market will grow more rapidly than in the rest of the vertical industry markets. With a CAGR of 16%, telecommunications will move into third place behind transportation and banking and finance in user expenditures by 1998. This increase is attributed to the growth of the industry itself as well as to increased demand for services such as billing.

EXHIBIT III-5

Transaction Processing Industry Sector Growth Rates, 1993-1998

Industry Sector	Revenues (\$ Millions)		CAGR (Percent)
	1993	1998	
Telecommunications	1,210	2,490	16
State and Local Gov't	364	641	12
Utilities	281	475	11
Banking and Finance	4,125	6,400	9
Retail Distribution	186	255	7
Insurance	393	528	6
Transportation	2,239	2,950	6
Health Services	545	675	4
Discrete Manufacturing	896	1,039	3
Process Manufacturing	770	890	3
Wholesale Distribution	317	373	3
Business Services	1,730	1,891	2
Education	205	231	2
Federal Government	180	165	-2
Miscellaneous Industries	137	124	-2

State and local government, while representing a comparatively small portion of today's expenditures, are expected to increase processing services spending at a healthy 12% CAGR, due to ongoing budget constraints limiting systems acquisition and support.

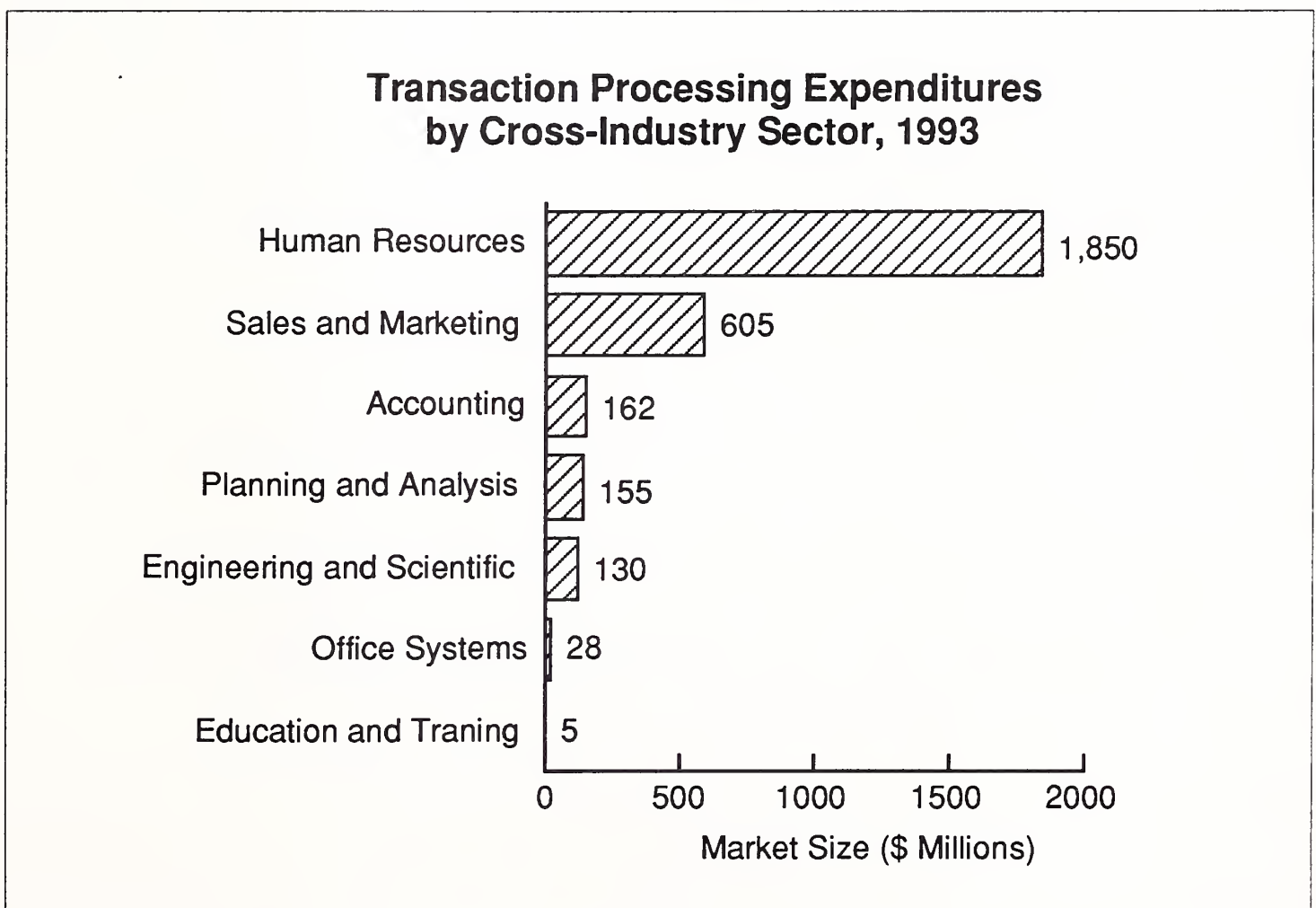
Expenditures by the utilities segment is also forecast at a healthy 11%. Small utilities frequently use processing services for day-to-day transaction processing. An important opportunity for vendors is the conversion of facilities records to computer form. Automated conversion tools are becoming more economical, helping to justify this move. The complexity

of “nuclear codes” and the high-performance resources needed to run these massive “number crunchers” have led to a significant on-line, frequently interactive, market in the niche of electric utilities with nuclear power plants.

Given the uncertainty of the future of health care coverage at this time, INPUT has projected relatively modest rates of growth in health care and insurance. As electronic claims processing becomes more of a reality, projections may be modified in the future. How much revenue from this process will be attributed to processing services, as compared to EDI, is unknown at this time.

User expenditures and growth rates for transaction processing in the cross-industry markets are shown in Exhibits III-6 and III-7. It comes as no surprise that human resources applications—most notably payroll—dominate, with 1993 expenditure projections of \$1.9 billion expected to increase at a CAGR of 8% to \$2.7 billion in 1998.

EXHIBIT III-6



Human resources and sales and marketing services are the only two cross-industry sectors expected to have positive growth rates over the next five years, as shown in Exhibit III-7. The wide availability of affordable systems and software have eroded the market for processing services in most of the cross-industry sectors.

EXHIBIT III-7

Transaction Processing Cross-Industry Sector Growth Rates, 1993-1998

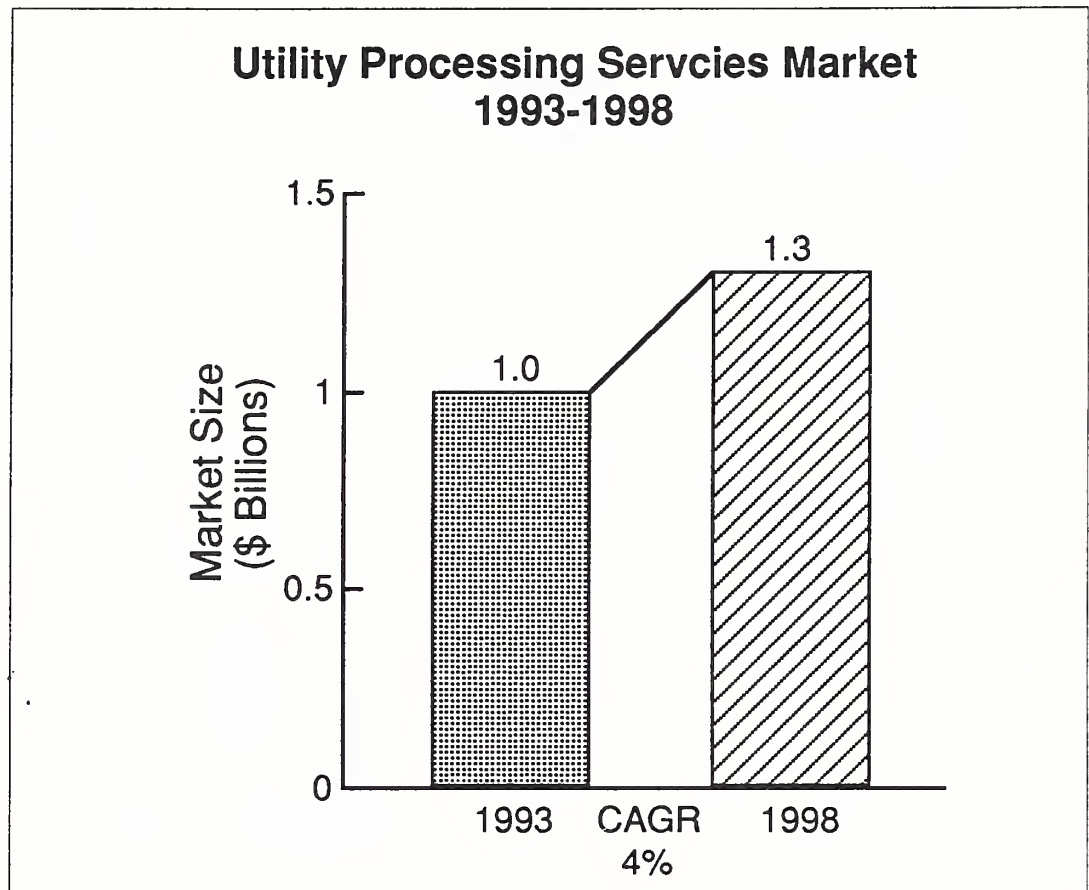
Industry Sector	Revenues (\$ Millions)		CAGR (Percent)
	1993	1998	
Human Resources	1,850	2,718	8
Sales and Marketing	605	710	3
Accounting	162	139	-3
Engineering and Scientific	130	100	-5
Office Systems	28	22	-5
Planning and Analysis	155	85	-11
Education and Training	5	2	-17

2. Utility Processing Services Market

Utility processing, which is neither industry nor cross-industry oriented, is still being used by large businesses and the government when certain unique resources are required to run or test applications, or when it is more desirable or economic to use resources from a vendor rather than provide them internally.

In 1992, expenditures for utility processing services were \$985 million. Expenditures in 1993 are expected to grow only slightly, to just over \$1 billion, and INPUT forecasts a CAGR of 4% to \$1.3 Billion in 1998, as shown in Exhibit III-8.

EXHIBIT III-8

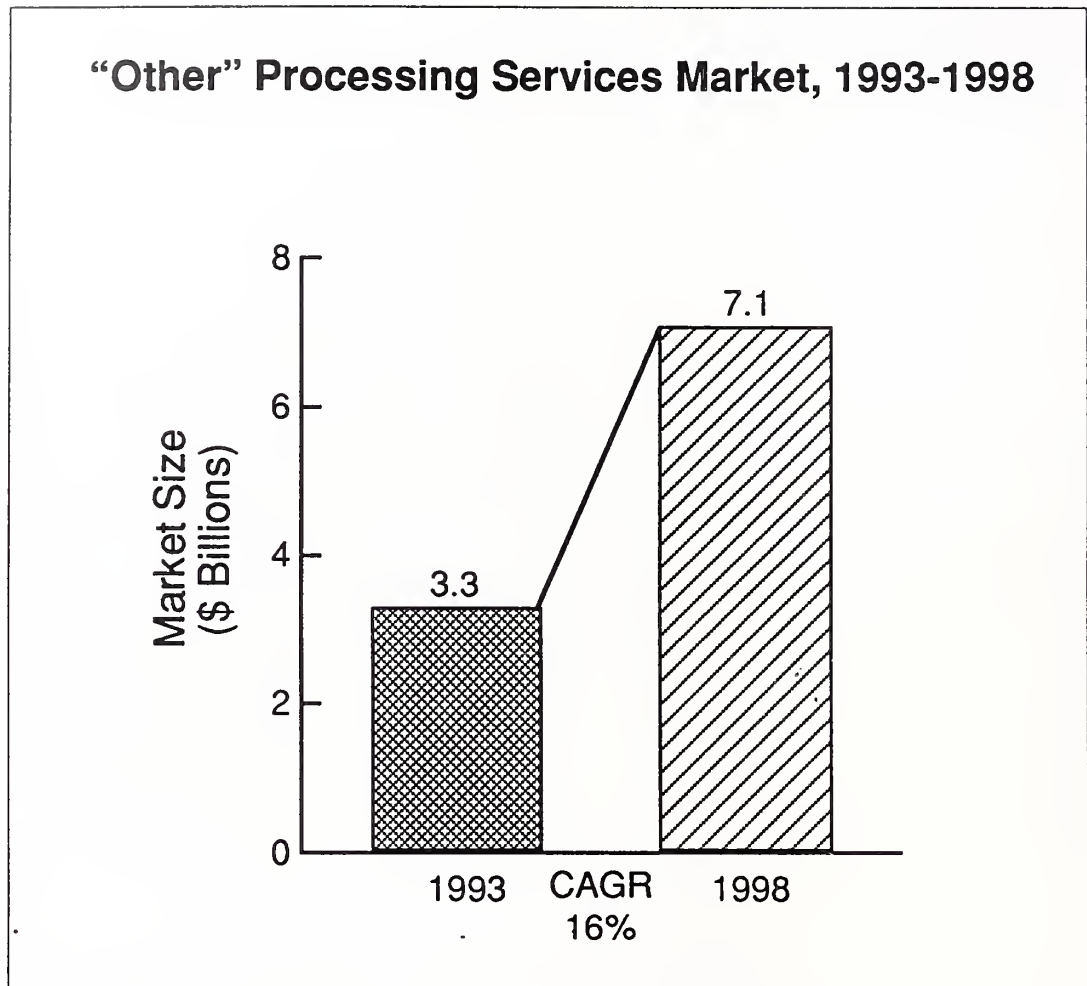


The growth rate for utility processing has been declining over time, and any investment in resources will be most feasible where such a service is a supplementary capability for a vendor offering transaction or other processing services.

3. "Other" Processing Services Market

By far the highest growth rate is for other processing services, a growth which is driven by the burgeoning demand for disaster recovery services. The market for these services is expected to grow at a CAGR of 16%—from \$3.3 billion in 1993 to \$7.1 billion in 1998, as shown in Exhibit III-9.

EXHIBIT III-9



Given the increasing reliance of American businesses on information systems and the increased awareness of the vulnerability of these systems in the light of recent, highly publicized disasters, disaster recovery vendors now have, and will continue to have, substantial opportunities to grow their business. While it is expected that in 1993 other processing services will represent 15.7% of overall processing services expenditures, by 1998 this percentage will increase to 23%.

The other processing services market also includes operational services such as pickup and delivery of work, remote data entry and special output services. These resources also have provided opportunities for processing vendors to obtain additional revenue.

Some of the other services—computer output on microfilm (COM), laser printing and remote data entry—have been sold separately as well as with transaction processing services.

C

Analysis

While there continues to be a sizable market for traditional transaction processing services such as payroll, processing services as a whole is a mature market that came of age in a time when technology was not as affordable to small business as it is today. To fill the gap left by applications migrating to in-house systems, processing services vendors will realize growth both from new services and from the increasing transaction volumes of existing services.

Vendors of disaster recovery services are well positioned for growth in the next five years, as demand for such services will dramatically increase. Company executives have noted in the papers and trades the devastating effects on computer operations of the many catastrophic events that have occurred in recent years. Many companies in the process of implementing client/server solutions have not yet resolved their disaster recovery solutions. Organizations of all sizes are becoming more aware of the need for such solutions and are expected to obtain disaster recovery services in increasing numbers over the next five years.

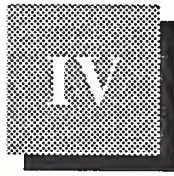
Vendors focused on the banking and finance sectors will continue to see revenues increase at the same rate of growth as that of processing services overall. This industry has traditionally made heavy use of processing services and, while some applications may have moved in-house, many companies have cut back (and in some cases eliminated) in-house operations in favor of third-party management. Credit/debit card and check processing requirements represent the most significant opportunities for increasing transaction volumes in this sector.

As telecommunications vendors offer new services, the need for sophisticated billing solutions will increase, giving processing services vendors an opportunity to compete for a larger share of this market.

Payroll/human resources applications are the only cross-industry applications expected to continue to make substantial use of processing services. For the most part, the demand for processing services for cross-industry applications is decreasing as a result of PC technology, making it more cost effective to bring many applications in-house. While payroll services will continue to grow at a CAGR of 8%, other cross-industry applications show negative growth.

Vendors that are addressing the specific needs of key industries have the opportunity for growth as such needs develop—particularly in the banking/finance, telecommunications, and health services sectors.

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Competitive Analysis

A

Major Players

There are a number of very large vendors who lead the market for processing services, including such companies as Automatic Data Processing, Inc. (ADP), Electronic Data Systems Corporation (EDS), First Data (Formerly American Express ISC), First Financial Management Corporation (FFMC) and Ceridian (Formerly Control Data). These large firms focus primarily on the major uses of transaction processing services today: applications serving the financial industry and payroll. In addition, as opportunities have occurred in markets such as health care and retail distribution, these vendors have had the resources and experience to also move into these areas.

The leading vendors, along with their estimated processing services revenues, are listed in Exhibit IV-1.

EXHIBIT IV-1

Leading Processing Services Vendors U.S. Revenue, 1992

Rank	Vendor	Estimated Processing Services Revenue Shared (\$ Millions)	Growth 91-92 (Percent)
1	ADP	1,368	10
2	FFMC	1,225	36
3	First Data	700	15
4	Ceridian	347	8
5	Fiserv	287	18
6	EDS	278	31
7	Equifax	213	12
8	NDC	184	-4
9	Comdata	179	5
10	CCH Computax	170	-3
11	Paychex	161	18
12	Shared Medical	159	7
13	Comdisco DRS	157	29
14	SunGard	128	13
14	Anacomp	128	6
15	IBM ISSC	67	11

It's interesting to note that despite the maturity of the transaction processing segment, which represents the largest portion of processing services expenditures, most of the leading vendors experienced revenue increases in 1992, with many realizing double-digit growth. This can be attributed to a number of factors. Some vendors have grown as a result of aggres-

sive acquisition strategies. For example, in 1993, Fiserv acquired the bank data processing operations of one of its largest competitors, First Financial Management Corporation. Since its inception in 1984, Fiserv has made 40 strategic acquisitions.

In 1992 First Financial Management Corp. acquired a leading health care management services company, a check guarantee and verification services company, and other businesses offering merchant credit card processing. Also, NaBANCO, FPMC's merchant credit card processing subsidiary, further expanded into regional and local markets by opening 24 sales offices across the U.S. And, during 1992, ADP made its largest acquisition when it acquired the payroll services business of Bank of America.

Divesting of nonstrategic businesses has also affected the financial posture of companies in this industry. First Financial Management Corporation sold Georgia Federal Bank, First Family Financial Services, and Basis Information Technologies in 1992.

Other strategies to boost revenue have been to expand into new areas to increase transaction volume. First Data Corporation, a major processor of third-party MasterCard and Visa transactions, entered the oil card and retail card processing business in 1992.

In addition to the large corporations discussed above, there are many transaction processing vendors with significantly lower processing services revenues that each have a very specialized focus in a particular industry or application. These include companies such as Shared Medical, which serves only the health care industry, CableData, which has developed services for the cable television industry, and Anacomp, which is specialized in the micrographics area. Exhibit IV-2 shows the major markets for some of the leading vendors.

EXHIBIT IV-2

Major Markets of Selecting Leading Processing Services Vendors

Vendor	Major Markets
ADP	Cross-industry human resources, banking and finance, insurance
First Data	Banking and finance, health, cable
Anacomp	Computer output microfilm
CCH Computax	Cross-industry tax accounting
Comdata	Transportation, leisure, gaming retail
Ceridian	Various markets, including banking and finance and cross-industry human resources
Covia	Transportation
FFMC	Banking and finance, health
Fiserv	Banking and finance
GTech	State and local government
NDC	Banking and finance, retail, health government, cross-industry
Shared Medical	Health care services
SunGard	Disaster recovery services
EDS	Banking and finance, communications energy, government, health care

Another tier of vendors providing processing services specializes in one of the key growth areas, disaster recovery services. This segment is dominated by Comdisco, SunGard Recovery Services, and IBM's ISSC; however, others have entered the field in the past few years, as shown in Exhibit IV-3.

EXHIBIT IV-3

Selected Disaster Recovery Vendors

- Comdisco
- SunGard
- CSC Compusource
- DEC
- HP
- IBM-ISSC
- National Data Guard Technology
- NCR Recovery Business Services
- Weyerhaeuser Recovery Services

While disaster recovery vendors derive the great majority (if not all) of their revenue from these services, transaction processing vendors tend to have their hand in a number of areas, as noted in Exhibit IV-4.

EXHIBIT IV-4

Other IS Services Offered by Selected Processing Services Vendors

	Turnkey Systems	Network/EID	Systems Ops.	Systems Integration	Prof. Services	Appl. Software
ADP	X	X				
EDS	X		X	X	X	
First Data	X	X	X	X	X	X
CCH Computax						X
Equifax		X				X
Fiserv		X	X			X
NDC	X		X			X
Shared Medical Systems	X	X	X		X	X
SunGard	X					X
IBM ISSC		X	X	X	X	X

Today's buyer wants to have a number of service options while minimizing the number of vendors needed to meet related needs. Therefore, a medical vendor of processing services will also offer software or turnkey systems. Providers of transaction processing systems have the expertise to move into the growing systems operations market, which offers substantially greater opportunities for increased revenue than does processing services. Offering both professional and systems integration services positions a vendor to understand the needs of a customer's (or prospect's) business and to be able to meet those needs in a variety of ways. As the growth of segments of the processing services delivery mode levels off, the importance of offering this variety of services will become more critical to survival.

B**Competitive Positioning**

Payroll - ADP and Ceridian Employer Services dominate the market for this service, with other, smaller players such as Paychex also having strong positions in a particular niche. Payroll processing is a mature market segment with the leaders holding a strong foothold. ADP alone processes paychecks for 16 million Americans. Unless a vendor were to develop a solution to a very specialized payroll processing need, it is unlikely that the market leaders will change in the next five years.

Banking and Finance - While there are clear market leaders in this industry sector—e.g., First Data, First Financial Management Corporation—the banking and finance sector is enormous, with new service needs occurring on a regular basis. Technology has allowed companies in this sector to change how they do business. ATMs and credit and debit card usage are constantly changing. This creates demand for more services, many of which can be addressed through transaction processing. Changing needs and the sheer size of the market also create opportunities for smaller, specialized processing service vendors to come in and fill a specific niche. While the market leaders will continue to dominate, there are opportunities for others to satisfy some of the many needs of this industry.

Telecommunications - This is a growth industry with changing needs and, while some industries have a history of wanting to control all applications in-house, this industry has traditionally been open to the use of processing services vendors who can address solutions to their business needs in a cost-effective manner. The market for some of these services is just opening up and there are no clear market leaders. This industry is so technically complex that vendors who know the industry have a clear advantage. Many RBOCs are using expertise developed to address their own needs to provide services to others. For example, Bell South and Cincinnati Bell Information Systems both have subsidiaries that focus on the cable billing market.

Medical - A number of relatively small companies that believe they understand medical applications have appeared in recent years to develop software and processing services within the medical community. Certain functions within health care have been slow to automate and are only now making use of computer technology. First Financial Management Corporation and First Data Corporation are looking to the health care industry as an opportunity to grow their business. While large vendors with extensive networks such as ADP offer a distinct advantage in the claims processing area, opportunities exist for smaller vendors for other applications. Shared Medical Systems, along with vendors such as Medaphis and MediQual, focus only on the medical community. PMSI specializes in the prescription area.

Disaster Recovery - Comdisco and SunGard were early entrants in the disaster recovery market and continue to be the clear market leaders for these services. As requirements for such services move beyond the mainframe into the realm of the LAN, these providers have also been aggressive in expanding service offerings. In 1992, Comdisco spent \$10 million to expand services to include back-up recovery for LANs. Now six of its hot sites can offer services for LANs and COMROC, its mobile facility, can move quickly to a location when a company experiences a disaster which affects its LANs. Similarly, Sungard has 6 MetroCenters designed to meet the needs of local workgroups on LANs.

These companies have also been moving toward expanded hardware support. In July of 1993, SunGard added UNIX to its disaster recovery services, and it also supports the RS/6000 and ES/9000. Its announced strategy is to continue extending the family of supported platforms.

Despite the dominance of these two suppliers, an increasing number of other providers, including major hardware vendors, are entering the market. This year, IBM and DEC formalized an existing commitment to jointly provide recovery for those customers who make use of both systems, thus providing a single point of contact.

C

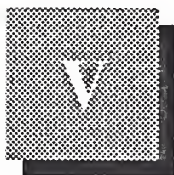
Analysis

With competition coming from increased use of in-house systems and pressure to reduce costs, the leading processing services vendors cannot afford to rest on their laurels. They must resist migration to in-house systems by offering technically superior service in a cost-effective manner. There are clearly economies of scale associated with processing services and the customer must be constantly educated on the advantages of this by being made aware of economic and functional benefits.

Although some business will be lost no matter what vendors do, they still need to constantly look for new ways to provide services and improve existing services to encourage an increase in transaction volumes.

Buyers today often have more of a business orientation than a technical orientation. These individuals are looking for solutions to their unique needs and will favor vendors who offer services specifically oriented toward their industries and applications.

New players in the market have the best chance of success if they specialize in niche markets addressing new needs, or old needs in new, more efficient, ways. No one is likely to challenge ADP's market share for standard payroll services. Yet, if a vendor focuses on the unique payroll requirements of an industry, or processing services in new areas such as cable billing or medical records automation, opportunities for success clearly exist.



Conclusions and Recommendations

A

Conclusions

INPUT's analysis identifies both positive and negative changes for the processing services market in the next five years. On one hand, there will continue to be significant spending for these services due to the continued demand for traditional services and the expanded use of new services. The economies of scale offered by processing services continue to be an advantage. On the other hand, in some segments of the market, service demand has leveled off and the availability of low-cost, in-house systems is eroding the market. This section discusses INPUT's conclusions as a result of these findings.

1. Expenditures

In looking at the three segments of the market, transaction processing will continue to represent the largest portion of processing services expenditures despite the anticipated growth in the disaster recovery area. Continued growth in this segment is expected through 1998. While some companies may choose to acquire their own in-house solutions and abandon use of a transaction processing service, INPUT projects that other needs will evolve to fill that void, either through the introduction of new services or increased volumes of existing services. With many companies experiencing reorganization and budget cutbacks, plus the trend toward outsourcing, the use of third-party offerings is looking more attractive. In addition, with the trend toward a global marketplace, processing services vendors offer a flexibility in networking that would be difficult for many companies to justify internally.

2. Demand

The way transaction processing is being used is changing. The demand by small businesses to use a service bureau rather than acquiring a system for traditional accounting procedures has become smaller. Likewise, demand for services such as payroll is leveling off as the unemployment rate continues to creep upward. These uses are being replaced or supplemented by applications where varying volumes and/or complicated networking requirements result in favorable consideration of processing services.

3. Opportunities

To grow their business, transaction processing vendors need to focus on those service areas where a third-party provider can be competitive with other alternatives. For example, in the cable TV billing arena, the whole billing process has become increasingly complex as new forms of service are introduced—including such things as pay-per-view and interactive services. The costs to individual cable companies, many of which are small, to acquire sophisticated billing systems can be prohibitive. The processing services vendor can offer such capability at a considerable cost savings, because usage is shared among many client companies.

Transaction processing vendors can also offer solutions to the unique needs of an industry or to specific application requirements. In the credit/debit card business, the geographic distribution of retail point-of-sale terminals and banks involved in such transactions, and the varying volumes, make a third-party solution with the capacity and flexibility to handle these requirements an attractive alternative.

4. Rate of Growth

While the lion's share of expenditures will continue to occur in transaction services, the largest rate of growth will be for disaster recovery services. Companies today, regardless of their type of business, are reliant on information to function. Many studies have shown that if access to information is lost for any period of time due to computer shutdowns, most companies will no longer be able to survive. Yet at the same time, adoption of disaster recovery plans and services has not yet become widespread—particularly for LANs and distributed computing environments. This is expected to change dramatically over the next few years. The large number of highly publicized natural and manmade disasters in the past few years has increased awareness of system vulnerability. Demand for disaster recovery is expected to be significant as many companies now move to put such contingency plans into place.

B

Recommendations

Based on the conclusions presented, INPUT offers the following recommendations for vendors of processing services.

1. Leverage Advantages

As discussed throughout this report, processing services vendors offer economies of scale for certain applications. Because services are shared among many users, transaction processing vendors can invest in large-scale, sophisticated systems with flexible, high-speed networking capability. Theoretically, because these costs are shared, the cost to the buyer should be reasonable. Vendors need to direct their marketing efforts toward those application areas where these advantages are most apparent. For example, focusing on the cable billing market offers an opportunity to showcase such benefits. The use of a processing service for basic accounting applications for small businesses that can easily handle such needs on a PC will be a "harder sell" in the future.

In order to emphasize the economies of scale, vendors must make sure that their services do indeed provide such benefits. Vendors should constantly be evaluating new technology that processes information faster and smarter to make sure that their technology is competitive with other alternatives. Because costs are shared, many of those financial benefits should be passed on to the user in the form of competitive costs.

2. Transaction Volumes

Because users make use of processing services on a pay-as-you-go basis, there is inherent variability in the use of the services. Vendors need to constantly focus on increasing transaction volumes both to maintain a reasonable rate of growth and to compensate for the normal loss of business to in-house and other options. In some cases, increased volume involves expanding service offerings. Vendors that have been successful in the finance sector should look for new services to offer this market to address additional needs. As transaction volumes for certain applications level off over time, vendors specializing in one industry may need to look into servicing other vertical markets that may be growing at a faster rate.

Other opportunities for growth include expanding geographic coverage. As companies expand the geographic boundaries within which they do business, vendors must be able to also expand coverage to maintain the business.

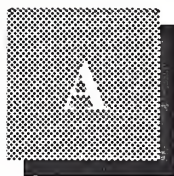
3. Specialized Needs

Certain industries, such as banking and finance, have predominantly used processing services. Companies in these markets have made ongoing use of processing services for certain applications. As they have expanded their own service offerings into new domains, they have also used processing services vendors for new applications. While these markets will continue to represent the largest expenditures, opportunity for significant growth exists most in those markets that have made less use of processing services in the past. Health care, for example, represents new opportunities due to the need for on-line claims processing. Telecommunications is another industry where new requirements are occurring. Vendors need to carefully select new markets and develop in-house expertise based on the business requirements of those markets in order to package appropriate solutions to the requirements of these buyers.

4. Breadth of Services

With the recent move toward open systems and away from proprietary solutions, buyers have indicated they want to have alternatives in order to be able to select the best alternative without being committed to only one application solution. Processing services, while offering distinct advantages for some requirements, is not going to be the most competitive solution to all requirements for all buyers, and most vendors have realized the need to offer related services to support their business growth. This will continue to be an important strategy. For some, a vertical market focus will be most effective, with processing services solutions for specific applications offered along with such services as applications software, consulting, or turnkey systems. Many large providers may provide system operations and system integration services along with processing services across many vertical industries.

As buyers' focus continues to be on "solutions" rather than a particular technology, it will be important for vendors to demonstrate both an understanding of the business requirements of that industry and the ability to offer a variety of options to address those needs.



Forecast Data Base and Reconciliation

A

Forecast Data Base

Exhibit A-1 presents the detailed 1993-1998 forecast for the processing services market.

EXHIBIT A-1

Processing Services U.S. Market Forecast by Industry Sector, 1993-1998

Industry Sector	1992 (\$M)	Growth 92-93 (%)	1993 (\$M)	1994 (\$M)	1995 (\$M)	1996 (\$M)	1997 (\$M)	1998 (\$M)	CAGR 93-98 (%)
Delivery Mode Total	19,403	8	20,878	22,594	24,477	26,564	28,813	31,222	8
Discrete Manufacturing	870	3	896	923	951	979	1,009	1,039	3
Process Manufacturing	740	4	770	795	820	845	870	890	3
Transportation	2,105	6	2,239	2,370	2,500	2,650	2,800	2,950	6
Utilities	251	12	281	312	347	386	430	475	11
Telecommunications	1,060	14	1,210	1,385	1,600	1,851	2,152	2,490	16
Retail Distribution	177	5	186	195	209	224	239	255	7
Wholesale Distribution	305	4	317	330	343	353	363	373	3
Banking and Finance	3,798	9	4,125	4,495	4,920	5,405	5,910	6,400	9
Insurance	381	3	393	434	459	482	506	528	6
Health Services	520	5	545	572	600	624	648	675	4
Education	199	3	205	211	217	222	226	231	2
Business Services	1,695	2	1,730	1,762	1,794	1,828	1,862	1,891	2
Federal Government	196	-8	180	179	176	173	168	165	-2
State & Local Government	325	12	364	408	457	511	573	641	12
Miscellaneous Industries	140	-2	137	134	132	129	126	124	-2
Total Cross-Industry	2,851	3	2,935	3,079	3,232	3,401	3,581	3,776	5
Other Markets	3,790	15	4,365	5,010	5,720	6,500	7,350	8,320	14
Processing Services-Utility	985	5	1,030	1,075	1,120	1,170	1,220	1,270	4
Processing Services-Other	2,805	19	3,335	3,935	4,600	5,330	6,130	7,050	16

B

Forecast Reconciliation

The forecast reconciliation for the processing services market is shown in Exhibit A-2. Processing services spending in 1992 was slightly higher than what was projected in the 1992 report, with a positive variance of 2%. This is largely due to higher than expected expenditures in the banking sector. Banking's 9% higher rate was a result of growth in credit/debit card applications and electronic funds transfer activities.

EXHIBIT A-2

Processing Services 1993 Data Base Reconciliation by Market Sector (\$ Millions)

Industry Sector	1992 Market				1997 Market				92-97 CAGR per data 92 Rpt (%)	92-97 CAGR per data 93 Rpt (%)
	1992 Market (Forecast) (\$M)	1993 Report (Actual) (\$M)	Variance From		1992 Market (Forecast) (\$M)	1993 Report (Forecast) (\$M)	Variance From			
			1992 Forecast				1992 Forecast			
			(\$M)	(%)			(\$M)	(%)		
Delivery Mode Total	19,112	19,403	290.6	2	27,972	28,813	841	3	8	8
Discrete	875	870	-5	1	1,077	1,009	-68	-6	4	3
Manufacturing										
Process	743	740	-3	0	939	870	-69	-7	5	3
Manufacturing										
Transportation	2,132	2,105	-27	-1	2,827	2,800	-27	1	6	6
Utilities	248	251	3	1	480	430	-50	-10	14	11
Telecommunications	1,058	1,060	2	0	2,129	2,152	23	1	15	15
Retail Distribution	177	177	0	0	239	239	0	0	6	6
Wholesale	307	305	-2	1	418	363	-55	-13	6	4
Distribution										
Banking and	3,483	3,798	315	9	5,117	5,910	793	15	8	9
Finance										
Insurance	381	381	0	0	530	506	-24	-5	7	6
Health Services	551	520	-31	-6	787	648	-139	-18	7	4
Education	196	199	3	2	225	226	1	1	3	3
Business Services	1,722	1,695	-27	-2	1,860	1,862	2	0	2	2
Federal	193	196	3	2	227	168	-59	-26	3	-3
Government										
State & Local	317	325	8	3	510	573	63	12	10	12
Government										
Miscellaneous	139	140	1	1	128	126	-2	-2	-2	-2
Industries										
Total Cross-Industry	2,827	2,851	23.6	1	3,342	3,581	239	7	3	5
Other Markets	3,763	3,790	27	1	7,137	7,350	213	3	14	14
Processing	990	985	-5	-1	1,264	1,220	-44	-3	5	4
Services-Utility										
Processing	2,773	2,805	32	1	5,873	6,130	257	4	16	17
Services-Other										

Other sectors where 1992 expenditures were slightly higher than projected include:

State and Local Government	3%
Federal Government	2%
Education	2%
Utilities	1%
Miscellaneous Industries	1%
Total Cross Industry	1%

The sector with the largest negative variance compared to the 1992 projections was health services, with expenditures for 1992 being 6% below INPUT's forecast. The uncertainty regarding government plans for national health care has been a major factor delaying many systems decisions in this sector.

Other vertical sectors where 1992 expenditures were slightly lower than projected include:

Business Services	-2%
Discrete Manufacturing	-1%
Transportation	-1%
Wholesale Distribution	-1%

The 8% CAGR for the period 1992-1997 remains unchanged. However, in looking at the vertical sectors, INPUT notes that slight variances in 1992 can become significantly larger in 1997, showing an ongoing trend in those sectors. For example, in banking, the positive variance of 9% in 1992 grows to 15% in 1997, indicating a more optimistic growth pattern than previously expected. In state and local government, expenditures are projected at 12% higher than expected in INPUT's 1992 report. For other processing services, there is a 4% variance in 1997 as compared with the 1% noted for 1992. The variance is relatively slight because INPUT has been aggressive in projecting growth in this area due to the increased demand for disaster recovery services.

Negative variances include the federal government's 1997 expenditures, which will be 26% less than previously estimated. This can be attributed to ongoing budget cutbacks and greater availability of in-house and outsourcing alternatives. Other significant negative variances in 1997 include:

Health Services	-18%
Wholesale Distribution	-13%
Utilities	-10%
Process Manufacturing	-7%
Discrete Manufacturing	-6%

Overall, CAGR rates for 1992-1997 remain fairly stable, with most sectors varying no more than 2% from the projections in INPUT's 1992 report. Utilities has the largest negative variance (3%); however, its growth for the 1992-1997 period is still projected at a healthy 11%.

